

SUMMARY OF THE REJECTIONS/OBJECTIONS

Claims 1-29 have been rejected under 35 U.S.C. § 102(e) as allegedly anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as allegedly obvious over U.S. Patent Number 6,578,074 issued to Bahlmann ("*Bahlmann*"). The rejections are respectfully traversed.

RESPONSE TO REJECTIONS BASED ON THE PRIOR ART

I. Claims 1-29 have been rejected under 35 U.S.C. § 102(e) as allegedly anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as allegedly obvious over U.S. Patent Number 6,578,074 issued to Bahlmann ("*Bahlmann*").

The rejections are respectfully traversed. The claims will be addressed in the same order as the Office Action in order to facilitate review by the Examiner.

A. CLAIM 28

Applicants respectfully submit that *Bahlmann* does not anticipate the Independent Claim 28 for at least the following reasons.

First, *Bahlmann* does not disclose the claimed

[s]toring a plurality of banks of addresses corresponding to the plurality of networks, wherein at least one particular set of one or more network addresses is included in more than one bank of the plurality of banks; ...

The Office Action cited the following for this claim limitation:

FIG. 11 is a time flow showing a network renumbering process of the present invention. The process begins with the old leases 1100 already created under an old **network policy** 1102 using an old range of IP addresses 1104. To support nearly seamless renumbering, a temporary **network policy** 1106 is created **overlapping the old network policy** 1102. Each old lease 1100 created under the old **network policy** 1102 is renewed with a temporary lease 1108 created under the temporary **network policy** 1106. The **overlap between the old network policy 1102 and the temporary network policy 1106** must be sufficiently long to allow all of the old leases 1100 to be renewed as temporary leases 1108. Any additional lease 1110 requested after the temporary **network policy** 1106 has started is given a temporary lease 1108.

When the old gateway lease 1112 is renewed, it is renewed with a temporary gateway lease 1114. Temporary gateway lease 1114 is aligned to a predetermined renumbering time and date. The alignment may be the expiration time, the renewal time, or the rebind time of the temporary gateway lease 1114. All other temporary leases 1108 are created to extend beyond the predetermined renumbering time. (column 12, lines 39-59)

Instead of **network addresses**, *Bahlmann* discloses the use of **network policies**. This general term and its scope become apparent by examining paragraphs immediately preceding and following the cited language.

When networks become very crowded and most or all of the available IP addresses are leased to clients, then the MSO operator must expand the range of available IP address to allow for additional expansion of the number of clients. Usually the existing range of IP addresses cannot be expanded by simply allocating more addresses above the highest IP address. **Instead the crowded network is renumbered...**

...

Prior to the temporary network policy 1106 ending, a new network policy 1116 is created. The new network policy has a larger range of IP addresses than the old network policy 1102. At the predetermined renumbering time, the temporary gateway lease 1114 is transitioned to a new gateway lease created **under the new network policy 1116**.

...

When each temporary lease 1108 reaches the predetermined event, a new bind or a rebind will take place and the client will transition to a new lease 1120 created under the new network policy 1116 having a new IP address 1122. (columns 12-13, lines 17-24, 60-65, 10-15)

Bahlmann utilizes general network “policies” to **renumber** an existing network in an overlapping lease and renewal process. In no way do *Bahlmann*’s overlapping “network policies” teach or suggest managing leased network addresses for **a plurality of networks** using **overlapping address spaces** (not policies) as claimed in the present application.

The present application discloses storing a plurality of banks of addresses corresponding to the plurality of networks, wherein at least one particular set of one or more network addresses is included in more than one bank of the plurality of banks. In contrast, *Bahlmann* transitions old leases to new leases wherein the addresses do not correspond to a plurality of networks; rather, it is simply a process by which the same bank of addresses is offered to the same group of clients in a global release/renew process. This is a far cry from

the claimed invention. The remaining language cited for the preceding claim limitation (FIG. 11 and column 7, lines 1-48) likewise describes this different global release/renew process.

Next, *Bahlmann* does not disclose the claimed

[r]eceiving a request for a network address for a host on a first network of the plurality of networks from a relay agent on an intermediate device connected to the first network, **the request including a qualifier associated with the first network by the relay agent;**

based on the qualifier, selecting a first bank of addresses from the plurality of banks;

identifying a first network address from the first bank of addresses **based at least in part on the request; ...**

The Office Action cited language from *Bahlmann* for a claim limitation written in the Office Action as

[r]eceiving a request for a network address for a host on a first network of the based on the qualifier (i.e., parameter), selecting a first bank of addresses from the plurality of identifying a first network address from the first bank of addresses based at least in part on the request; and ... (Office Action, page 3, 2nd paragraph)

It is unclear as to how the preceding sentence covers the actual claim language as reproduced above. The cited language omits “the plurality of networks from a relay agent on an intermediate device connected to the first network, the request including a qualifier associated with the first network by the relay agent” and juxtaposes other elements of the claim. While this inconsistency makes it difficult to ascertain how the cited language covers the actual claim, it is of no moment because the sections of *Bahlmann* cited to anticipate or make obvious the actual claimed language are inapposite.

It is revealing that the term “relay agent” is mentioned only six times in *Bahlmann*. In none of these instances does *Bahlmann* disclose a relay agent on an intermediate device connected to a first network passing a request for a network address for a host on a first network of the plurality of networks, the request **including a qualifier associated with the first network by the relay agent** and, **based on this qualifier,** selecting a first bank of addresses from the plurality of banks, and then identifying a first network address from the first bank of addresses **based at least in part on the request.**

Rather, *Bahlmann* discloses relay agents as “usually software programs executed on gateways... within the headend.” (*Bahlmann*, column 5, lines 30-32) In no way do *Bahlmann*’s “relay agents” teach or suggest the relay agents as claimed in the present application. The present application discloses relay agents that, among other things, “maintain a map data structure (a “map”) for storing an association between each interface on the intermediate device and a qualifier that uniquely indicates one private network.” These relay agents further use a qualifier to distinguish different hosts having the same IP address. The relay agents on the intermediate devices send the configuration information to the proper host based on the qualifier, such as the VPN name, included in the messages between relay agent and configuration server.

While *Bahlmann* discloses relay agents, it in no way teaches or suggests managing leased network addresses for multiple networks using overlapping address spaces, through the use of relay agents or any other structure. An anticipation rejection cannot stand if a rejected claim contains one or more elements, limitations or steps that are not found in the cited prior art reference. See *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983). Further, *Bahlmann* does not render the claimed invention obvious as there is no suggestion to, among other things, modify relay agents to change the use of the *giaddr* field as well as adding new information in the relay-agent information sub-options.

Because *Bahlmann* fails to disclose, teach, suggest, or in any way render obvious the limitations of Claim 28, Applicants respectfully submits that, for at least the reasons stated above, Claim 28 is allowable over the art of record and is in condition for allowance.

B. CLAIM 29

Independent Claim 29 is an apparatus claim containing features that are similar to those described above with respect to Claim 1. Therefore, based on at least the reasons stated above with respect to Claim 1, Applicants respectfully submits that Claim 29 is allowable over the art of record and is in condition for allowance.

C. CLAIMS 1, 11, 24-27

Independent Claims 1, 11, and 24-27 are independent claims containing features that are similar to those described above with respect to Claims 28 and 29. Therefore, based on at least the reasons stated above with respect to Claim 28, Applicants respectfully submits that Claims 1, 11, and 24-27 are allowable over the art of record and are in condition for allowance.

D. CLAIMS 2-10, 12-23

Claims 2-10 and 12-23 are dependent claims, each of which depends (directly or indirectly) on Claims 1, 11, and 24-29. Each of Claims 2-10 and 12-23 are therefore allowable for the reasons given above for the claim on which it depends. In addition, each of Claims 2-10 and 12-23 introduce one or more additional limitations that independently render it patentable. However, due to the fundamental differences already identified, to expedite the positive resolution of this case a separate discussion of those limitations is not included at this time. Therefore, it is respectfully submitted that Claims 2-10 and 12-23 are allowable for the reasons given above.

Conclusion

For the reasons set forth above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a formal Notice of Allowance is believed next in order, and that action is most earnestly solicited.

The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application.

Please charge any shortages or credit any overages to Deposit Account No. 50-1302.

Respectfully submitted,

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